

IN THE CLAIMS

Please amend claims 2, 16, and 18, without prejudice or disclaimer, as follows. A marked up copy of the amended claims is attached hereto.

2. (Amended) An apparatus for measuring an object on a conveyor having a width, the apparatus comprising:

a chassis;

a mirrored wheel rotatably located on the chassis;

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a light source positioned on the chassis and oriented to transmit a light beam in a fixed direction onto the mirrored wheel, wherein when the wheel rotates the light beam is reflected while also being sequentially redirected at one of a plurality of varying angles resulting in the motion of the light beam, which is reflected from the mirrored wheel, defining a path oriented generally perpendicularly to the light beam;

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a reflecting surface located on the chassis and oriented to receive the light beam that is reflected off of the mirrored wheel and to redirect the light beam toward the conveyor such that the path defined by the light beam extends generally across the width of the conveyor, wherein the light beam, when not obstructed by the object, impacts the conveyor at an angle relative to a perpendicular extending therefrom;

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a detector disposed on the chassis and having a field of view initially oriented toward the mirrored wheel, wherein the field of view is redirected via the mirrored wheel and the reflecting surface to allow the detector to detect a reflection of the light beam off of one of the conveyor and the object at a plurality of locations as the light beam moves along the path across the conveyor.

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16. A method of measuring an object on a conveyor, comprising:
emitting a single light beam in a fixed direction;
sequentially reflecting the light beam through a plurality of varying angles causing the motion of the reflected light beam to define a path generally perpendicular to the light beam, wherein the path extends generally across a width of the conveyor, wherein the light beam, when not obstructed by the object, impacts the conveyor at an angle relative to a perpendicular extending therefrom;
detecting the reflection of the reflected light beam off of one of the object and the conveyor at a plurality of locations along the path; and
determining a height profile, relative to the conveyor, along the path.

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18. A method for determining the dimensions of one or more objects on a

conveyor, comprising the steps of:

directing at least one light beam onto the conveyor at a plurality of locations along the path;

detecting reflections caused by the at least one light beam striking one of the conveyor and the object, wherein the light beam, when not obstructed by the object, impacts the conveyor at an angle relative to a perpendicular therefrom;

collecting time and location data associated with the detected reflections; and

generating a height-profile, relative to a conveyor surface, along the path.

Please add new claims 21-23, as follows.

21. (New) An apparatus for measuring an object on a conveyor having a width, the apparatus comprising:

at least one light source positioned above the conveyor and adapted to transmit a light beam that when not obstructed by the object, impacts the conveyor at an angle relative to a perpendicular extending therefrom, wherein the light beam impacts the conveyor at a separate one of a plurality of locations along a path extending across the width of the conveyor;

22. (New) The apparatus of claim 21 further comprising:
a detector disposed proximate to the conveyor and having a field of view, the field of view, when not obstructed by the object, intersects the conveyor along the perpendicular, the field of view is adapted to allow the detector to detect a reflection of the light beam off of one of the conveyor and the object at the separate one of the plurality of locations.

22. (New) The apparatus of claim 21 further comprising:
a controller which receives a path-height-profile-measurement-signal as the object is transported across the path defined by a plurality of impact locations between the light beam and one of the conveyor surface and the object; and

wherein the detector is a line scan camera that transmits the path-height-profile-measurement-signal, which represents a height of the object, as measured at a plurality of locations along the path, relative to a conveyor surface; the controller being adapted to use the path-height-profile-measurement-signal to determine a height and a width of the object.

23. (New) The apparatus of claim 22 wherein a plurality of the path-height-profile-measurement-signals can be used to determine a height, a width, and a length of the object.